An
Inaugural Essay
on
Neuralgia
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by
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of
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An Essay on Neuralgia.

The disease intended to be noticed under this title, has of late attracted much attention, not only from the painful character, but from the intractable and obscure nature of the complaint. This essay is not undertaken with the vain hope of throwing any additional light on a subject which has engaged the attention of abler and more experienced persons, but for the purpose of collating and arranging the various opinions and facts appertaining to the inquiry and to condense into a small compass the history of the various remedies, which, at different periods, have been employed in the cure of the disease.

The name Neuralgia (derived from "νευρον, nervus," and "αλγος, dolor") is selected as the most appropriate of any of the terms employed to designate the disease. "Tic douloureux", the name given by M. André is liable to objection, as the word "Tic" is often used in the same sense, as, Trismus, there-

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by confounding two diseases which are entirely dissimilar. The same objection will apply to "Trismus Dolorificus" the name proposed by M. Sauvage. The names employed by Drs. J ("a painful affection of the face") and S Fothergill ("Faciei morbus nervorum crucians") are defective as generick terms, in confining their application to that form only, which affects the face. Even the latter term may be reduced to the same signification as Neuralgia, but not so concisely expressed, by the omission of the first word of the term. The terms Autalgia dolorosa and Prosopalgia are rejected as expressive neither of the nature or seat of the disease.

With regard to the period at which this disease first made its appearance, authors are at variance, some ascribing it to the time of Hippocrates, others to that of Rhazis an Arabian writer, while a third class, place it at no earlier date than the middle of the last century. Pujol who has taken the greatest trouble in this inquiry was unable to satisfy him-

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-self that the ancient Greek writers were acquainted with the disease. He gives the credit of the first accurate description, to Mr. Andre of Versailles, who noticed it, in his treatise on the diseases of the Urethra published A.D. 1756. This opinion is the one most generally adopted at the present time. Since this period it appears to have been more frequently noticed. It was next noticed in France by Mr. Louis in 1766, subsequently by Mr. Villard in 1768. and by Puyol and Thouret about 1782. The first notice of the disease in England appeared in the third volume of Medical observations and inquiries, in a case detailed by Dr. J. Fothergill in a paper entitled "Observations on the use of Hemlock". This slight notice was followed in the fifth volume for the year 1773, by a paper from the same author devoted entirely to the consideration of this disease. The next notice was by Dr. J. Haighton in the medical Records and Researches, A.D. 1798. This was followed in 1804 by the systematic treatise of Dr. J. Fothergill, and still later by sev-

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-ral other observations some in distinct essays, others in the different periodical publications of the day, appended to the various cases noticed by the authors.

Neuralgia may be defined, to be, a morbid sensibility of a nerve and its branches; attended with acute lancinating pain in its course together with convulsive actions of the neighbouring muscles, occurring in sudden intermittent paroxysms. This definition is intended to embrace the characteristic signs of this disease without entering into details which will receive an appropriate consideration in another place.

The causes of this disease are not always obvious; some persons becoming affected without any apparent cause. They may however be divided into Local and General causes. The Local are, injuries, as, partial division, puncture contusion or any organic lesion of the nervous fibre, Tumors pressing upon or enclosed in a nerve, slight inflamation or congestion of the neurilema, a varicose state of its veins, and

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the irritation of decayed teeth. The passage of a calculus through the Ureter gave rise in one case to Neuralgia of the Obturator nerve, and inflamation of the soft parts round the root of a nerve has been the cause in another. The General Causes are not so well known, but the following may be mentioned as having a great share in the formation or aggravation of the disease when formed. First, Such as by their action on the general system are known to produce local effects, as, exposure to a cold and moist atmosphere, vicissitudes of weather, &c. Second, Such as produce constitutional derangement. Though these causes may be denied to produce the disease, yet they must be acknowleged to act as powerful agents in aggravating it when by the action of any cause it has been produced.

This disease is not confined to any particular set of nerves, but may affect all the nerves of sensation, especially those which are seated superficially and in loose cellular texture. The nerves

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thus situated are more exposed to the action of external agents, as, injuries, cold, changes of weather &c. The form which is most usually seen, is that of Neuralgia faciei, affecting the branches of the fifth pair of nerves, The second or suborbitar branch is more commonly affected than either of the others. The next in frequency is that form denominated neuralgia femoropoplitei. The other forms are comparatively rare. The peculiar names given to the disease according as it affects different parts are no further useful than as pointing out the location of the disease. The occurrence of two forms of this disease in the same person is seldom seen. Cases of this kind are said to have occurred to Bichat, Cotugno and Fouquet.

The period of life at which this disease occurs is stated by Dr. Fothergill to be about the fortieth year. This may be admitted as the period at which it is most usually seen. Cases however have occurred at a much earlier period. Of thirty nine cases re-

-ported in the different medical journals and in which the age is mentioned, twenty nine were above forty, six between thirty and forty and but four under thirty years of age. The time of life may perhaps be more correctly designated as, that period at which the system appears to be loosing its balance and becoming liable to be affected by slight causes. This period varies in different persons according to their natural constitution, their previous manners and habits of life and the more or less frequent action of those causes which have a tendency to bring on premature old age. The sedentary lives of females would seem likely to render them more susceptable of the disease, but that they are so, appears doubtful. It occurred thus in the practice of Dr. J. Fothergill, but in that of Pujol the contrary obtained.

In exhibiting the symptoms of this disease that form will be selected which most frequently occurs, as affording the best specimen of the affection. As the characteristic signs are the same

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in all parts of the body, the disease may be recognised with equal facility in any other form by taking into consideration the anatomical structure of the affected part. A form of this disease is described by some of the German writers in which an intermittent character is clearly manifested by the attacks recurring at regular intervals. The assertions of the existence of this form are received with doubt by many and by others entirely rejected, on the ground that the disease has been confounded with Rheumatism, Hemicrania or some other affection of the head, which are well known to assume a periodical character. Whether this form exists, is not pretended to be affirmed or denied, but until these accounts receive further confirmation, they may be accounted as observations not firmly to be relied on. The disease will therefore be considered without any reference to its assumption of a periodical character. The disease in its commencement varies in its mode of attack, sometimes beginning suddenly in severe paroxysms, at others in so slight

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a manner as to attract but little notice, and only excites attention after some time by the greater frequency and acuteness of the paroxysms, while on other occasions it assumes a form much resembling Rheumatism; which in its course gradually puts on the appropriate signs of this disease. In whatever manner the disease may commence, the form which it ultimately exhibits will be the same. Its attacks are marked by paroxysms occurring at irregular intervals and of uncertain duration, varying from several seconds to as many minutes. The paroxysms are generally sudden in their attack, leaving the patient in a short time in a state of comparative and often perfect ease. At times these paroxysms are preceeded by an acute pulsatile pain, which Dr. Jones aptly compares to "the vibrations of a musical chord". At this period on observing attentively the parts to which the affected nerve is distributed a slight convulsive action of the muscles may be seen, which action seems to be synchronous with each throb of the pain. This throbbing pain is often more disagreeable, though not so violent as the acute

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pain of the paroxysm. The pain in this disease is acute and lancinating, shooting along the course of the nerve from its extremities to its origin. The sensation has been compared to burning or boring, tearing or cutting the flesh from the bones. When we see a patient attacked with a paroxysm of this disease, we observe him to become suddenly motionless, even in the most uneasy posture. The countenance is expressive of intense agony, the brows are knit, the eyelids compressed, the angle of the mouth drawn towards the ear, the breathing is slow, amounting at times to almost a total cessation of respiration, and the patient appears as if afraid of the slightest motion, the whole appearance portraying in visible signs the intensity of the suffering. These paroxysms are sometimes accompanied by redness or watering of the eye of the affected side and a flow of saliva from the mouth. It is sometimes the case that by hard pressure or rubbing the hand upon some particular spot, the patient can alleviate the pain. This is not at all times the case even in the same person, but is generally perceived at that time when

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the paroxysms occur with least frequency. The paroxysms are less numerous during the night than during the day, owing to the patient being in a state of insensibility and to many of the exciting causes being withdrawn. The state of sleep alone does not prevent the accession of a paroxysm, as by the lightest touch of the bedclothes the patient may be transferred from the soundest sleep to a state of intense suffering. The paroxysms occur at some periods more frequently than at others. These periods vary from a few days to as many months in duration, while some are at all times equally affected. Variations of weather influence the frequency of the paroxysms, they being more frequent in cold and damp than in warm and dry weather. Occasionally the disease disappears spontaneously and never again returns, but mostly after an interval of ease it recurs with its former violence. These intervals are the more frequent when the disease is of short standing. In these cases though the patient may be flattered with the hope of entire relief, yet a renewal of the disease may confidently be expected. Notwithstanding

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the acuteness of the pain, there is rarely any swelling or redness of the soft parts. Occasionally after some severe and frequently repeated paroxysms a slight swelling of the parts to which the affected nerves are distributed, may be seen. This swelling appears to be of a leucophlegmatic character and to be caused by excess of irritation, as it disappears in a short time and never in well marked cases terminates in suppuration. The most trivial causes are sufficient to produce a paroxysm, a slight motion made in eating, drinking, talking, &c, a delicate touch from a hair or feather or a gentle current of air, is productive of excruciating pain.

Neuralgia may be confounde with Neuritis, Odontalgia, Hemicrania, Affections of the Antrum, Rheumatism, Gout and Syphilitic pains. When the disease is fully developed, its characteristic marks are so manifest that it is not easily mistaken. In the commencement it is not so well marked, and as all diseases have a tendency, when neglected or improperly treated, to become more firmly fixed, and to be eradicated with difficulty, it

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would seem proper to point out the diagnostic symptoms of the disease.

That form of disease described by M. Martinet as acute inflamation of the nerves and by him denominated Neuritis is most liable to be confounded with Neuralgia, not only from its affecting the same parts, but from its having some symptoms common to both. It however may be distinguished, by the pain in Neuritis being constant, with only occasional exacerbations and remissions, but never suddenly intermittent as in Neuralgia. A manifest swelling of the nerve may generally be perceived in Neuritis and its functions are more or less impaired. On the contrary in Neuralgia there is seldom any swelling and no loss of function.

Neuralgia may be distinguished from Odontalgia, by its occurring generally at an age when but few teeth remain, by the shortness of the paroxysm, the intervals of ease and the darting nature of the pain; while in Odontalgia the pain is deep seated and may usually be traced to the irritation of a decayed

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tooth, and more particularly evinced by striking the suspected tooth with a hard body.

From Hemicrania it is to be distinguished by the by the attack in the former being generally periodical, the pain fixed to a definite spot; continuing some length of time and disappearing in a gradual manner; the pain likewise does not follow the course of any nerve, and requires stronger causes to produce an exacerbation.

The affections of the Antrum differ in their symptoms from Neuralgia in the pain being constant and confined to the region of the antrum, never darting in the course of a nerve, and by the ultimate issue, as they terminate by a discharge of pus or cause considerable deformity. The affections are also not much under the influence of external agents.

Some diversity of symptoms exist between Neuralgia and Rheumatism, the pain in the former being acute, lancinating, intermitting and following the course of a nerve; while in Rheumatism, it is fixed, constant and

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even in the acute form though sharp, yet not so exquisite as in Neuralgia. In the Chronic form besides being constant it is dull and heavy and not excited by slight causes.

From Gout it may be distinguished by the sudden cessation and recurrence of the paroxysms, those of Gout being of longer continuance, and accompanied by local inflamation.

Syphilitic pains are distinguishable by the previous history of the complaint and their period of exacerbation being at night when the patient is warm in bed.

The information obtained from post mortem examinations is, even at the present period extremely limited. As the disease never proves fatal, the opportunities of detecting the specific condition of the affected nerve have been rare. In the few cases on record, there appears much diversity in the state of the affected parts. While in some cases no deviation from the healthy state has been found, in others diseased appearances have presented. In some cases the neurilema has been found more highly tinged with blood than is natural, slightly thick-

-ened and containing more serum than usual; In another the neurilema was covered with varicose veins and in a relaxed state, but not containing any excess of serum. This latter circumstance is equivocal, as the relaxed state of the neurilema would call for a distending cause, which may have exuded into the surrounding cellular texture, through too long a delay in making the examination. Other cases have been found to owe their existence to tumors pressing upon or enveloped in the substance of the nerve. Although so much diversity has existed in the diseased appearances, no difference has presented in the symptoms by which the cause might have been known, except in those cases caused by tumors in which the morbid formations were evident to the senses.

Much difference of opinion exists as to the proximate cause of Neuralgia; each author setting forth his own opinion or honestly confessing his ignorance. Notwithstanding the numerous hypotheses advanced for determining the proximate cause, none can be considered as based upon a foundation entitled to much confi-

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-dence. André while the knowledge of the disease was in its infancy, supposed it consist in an irritation of the nerves, and contents himself with merely expressing this opinion without pointing out the nature of the irritating cause. To this opinion succeeded that of Pujol, who endeavoured to prove the disease to be an habitual state of erethism of the nerve, depending on the action of a secondary cause to produce a paroxysm. This hypothesis was refuted by Thouret, who entering minutely into the subject of Cramp maintained the utter dissimilarity of the two diseases. Dr. J. Fothergill forming his opinion from the presence of certain local affections in those who came under his care, was led to consider the disease as connected with a cancerous diathesis. The pertinent remarks of Dr. Haighton suffice to show the fallacy of this opinion. Dr. Fothergill is not the only writer who has connected this disease with other affections of the system; Some later writers have made the proximale cause to consist in an arthritic diathesis, founding their opi-

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-nion on the fact, that these pains disappear on an attack of Gout, and from observing at the affected point tumors which they supposed to resemble those caused by Gout. But as observed by Dr. J. B Murray "as this hypothesis is not applicable to every case it is inadequate to explain the mystery." By Dr Parry the disease is located in the capillary vessels of the neurilema and said to consist in an "increased vascularity or determination of blood (perhaps amounting to inflamation) of that part. That this is sometimes the case is shown by Post mortem examinations, but other phenomena also present which are not consonant with this theory. To Armstrong this disease appeared as "a congestion or increased action in the vessels of the brain." This cannot be the case in those attacks which have their origin in local causes, as injuries, &c. the hypothesis therefore falls short of explaining the nature of the disease. By Abernethy, Wilson and others, the disease is said to consist in a morbid sympathy, having its origin in the digestive organs. However active such affections may be in

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aggravating the disease, it remains doubtful what share they can have in its formation. They can hardly be supposed effective any farther than to render the parts more susceptable to the action of the causes of the disease. The partial and limited nature of the views here laid down is manifest. Each author relying totally on the cases which have fallen under his own observation and have yeilded to some peculiar mode of treatment, forms his opinion from these alone, putting entirely out of view those cases which militate against his doctrine. It is owing to this, that the disease has been so differently located and connected with affections presenting different phenomena. These partial views would yet be useful, were it not that relying with too much confidence on their correctness, remedies would be rejected, which others have found useful or we would act inconsistently by employing measures not in harmony with our system. On the other hand, rejecting every theory, we deprive ourselves of any clear indications in the choice of our remedial resources and we are compelled to act empi-

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-rically or from a blind routine. From these circumstances we we are induced to adopt the opinion which appears most consistent with our present knowledge and by which we can explain the action of our remedies, at the same time, not to be so far carried away by theory as to loose sight of opposing facts, but to leave the way open to further improvement and correction. Guided by these views we may appear err in turning our thoughts so far back, as to adopt the opinion first offered by Andrè and subsequently revived in the Dictionnaire de Science medicale, but we hope by means of the information gained since that period to give some additional strength to the doctrine. Neuralgia then, we are led to conclude, consists in an irritation acting on some portion of a nervous chord, producing a partial interruption of its functions and exhibiting its effects only ~~only~~ when the nerve is acted on by the secondary or exciting causes. We shall endeavour to draw some arguments in favour of this opinion from the Symptoms, Causes, Phenomena displayed by dissection, and the articles employed in the cure of the disease. The Symptoms alone are not adequate for the

formation of an opinion of the nature of the disease. They suffice to show the location of the disease and the irritable state of the nervous fibre, without giving any idea of the cause of this state. From them, though we cannot learn what is, yet what is not the cause of the disease is manifest. There is not an acute inflamatory action in the neurilema. This the suddenly intermittent nature of the pain entirely disproves, for in inflamation the pain is constant, varying occasionally in force, but not intermittent; the latter trait (intermission) is more characteristic of and frequently conjoined to irritation. Failing to draw any deductions from the symptoms we must resort to other circstances to ascertain the nature of the disease. Of these, the causes first attract our attention, and first, of mechanical injuries. When the disease arises from this cause it pursues the following course. The injury is inflicted, causes much pain and is either with or without a wound, the injured spot soon resumes its natural appearance, previous to which or soon after, darting pains are felt in the course of the nerve, and increasing

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in frequency and extent, exhibit the characteristic appearances of Neuralgia. Here a cause of inflamation acts and produces its appropriate effects, these disappear and are succeeded by other phenomena evidently the results of the previous disease. To ascertain the probable nature of these, we must resort to the usual terminations of inflamation. There may remain a chronic dilatation or congestion of the vessels, an effusion of serum or coagulable lymph, any of which may by their presence prove a cause of irritation. Neuralgia is said to be frequently connected with decayed teeth. This connexion may be explained upon the principle that decayed teeth act as foreign bodies, producing irritation of the extremities, which irritation is propagated through the course of the affected nerve.

A case is reported by Bailly in which the obturator nerve was affected, and by him it was attributed to the passage of a calculus through the Ureter. This opinion was founded on the circumstance that the disease suddenly ceased, and not long after a jagged calculus was passed with the Urine. If he did not err in his conclusion,

this case presents features which are much in favour of our doctrine. A hard, irregular substance is placed in the neighbourhood of a nervous chord, but enclosed in a membranous sheath, and produces this disease. That it is not by causing an inflamatory action that these effects are produced, is manifest; as in that case the calculus would not have passed so readily; it may have caused congestion, which would have proved irritating by limiting the action of the nerve. Cases are related by Dr. T. Evans, of this disease affecting the superior extremities, which were traced to an inflamation about the cervical vertebra. In this inflamation the nervous fibre did not participate or the fact would have been manifested by the constancy of the pain, but the disease was caused by the pressure and irritation of the swelling on the nerves. We have now considered all the causes from which any just inference may be drawn. We shall next take up the phenomena as displayed by dissections. The diversity of these phenomena show that the nerve is not always similarly affected. However these affections may differ, their

action is the same, they are all capable of irritating organs of such exquisite sensibility; elsewhere situated their effects would be unnoticed, but exerting their action on parts formed to be affected by slight causes the result may easily conceived. The remedies used in the cure of the disease would also seem to point out irritation as the proximate cause. Narcotics are used, and those are most effectual, which deaden the nervous sensibility. Tonics are resorted to, and by imparting tone to the general system, render particular parts less susceptible to irritation. Counterirritants are employed and act by substituting an irritation easily controled, for one that is hidden and less under our immediate management. The opinion we have advocated receives additional support from the success attendant on the operation of dividing the nerve, in which the communication between the sensorium and affected part is completely interrupted. In thus offering our feeble efforts in favour of the doctrine of Andre, we can hardly expect to convey conviction to the minds of others and we must ~~and~~ do rest in the

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humble hope that the acquisition of more specific knowledge on this portion of pathology, may either confirm the theory we have espoused or substitute one more consistent with all the phenomena connected with the disease.

The cause of the disease, we have said may be situated in any portion of the nerve. When an injury is inflicted on a nerve it is immaterial upon what portion it acts, as the disease is with equal readiness produced, but with this difference, that when the trunk receives the injury, the effects are exhibited in the direction of its branches, but when the extremities, the effects appear in the trunk and branches given off by it. Dissection also establishes this difference as to the immediate spot acted on.

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From the uncertainty in which the true nature of the disease is yet involved, it is difficult to lay down any accurate indications in its treatment. In consideration of this difficulty, the diversity of the causes and the variety in the remedies hitherto employed, we are induced to arrange the curative measures under two classes, predicated upon the views we have endeavoured to sustain.

Class first. Those measures calculated to remove the cause of the disease.

Class second. Those measures calculated to prevent the action of the causes from reaching the sensorium.

Under these two classes we shall endeavour to comprise all the remedies which have been used in this disease and with the principle of whose action we are acquainted.

Class first. Those measures calculated to remove the cause of the disease.

As these measures will vary according to the cause, our first endeavour should be to ascertain as far as possible, by what agent the disease is produced. In this at-

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-tempt, we will meet with considerable disappointment The means we possess of distinguishing the different causes are few and not to be relied on with much confidence.

The irritation of decayed teeth has been stated as one of the causes. The presence of this irritation may often be ascertained with ease, at others it is not so apparent, the diseased part being concealed from view. In this case the following measures are usually resorted to. When the disease is in the neck of the tooth and concealed by the gum, it may be detected by passing, a delicate, sharp pointed probe, with a slightly curved end, carefully around the tooth, when if any cavity exists it will be perceived. When the disease is in the root of the tooth, striking on the crown of the suspected tooth with some metallic instrument will be productive of considerable pain. Though we may have thus ascertained the presence of the decay, we are still uncertain that it is the cause of the disease. We know on the one hand, that the disease has been produced by this cause, and on the other, that they have coexisted without any connection. If in the former case, we ex-

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-tract the tooth the disease is cured, but in the latter, it is aggravated. We have therefore a choice of two difficulties. the latter of which is perhaps the lesser; but it should render us cautious as to our prognostic of the benefit to be derived from extraction. It may perhaps be better, after stating the difficulty, to leave the choice to the patient or to delay the extraction until after the trial of other measures.

The pressure of tumors on or their presence in a nerve, we have stated to be another cause of the disease. Their existance cannot always be detected, as such causes may be located in parts impervious to our senses. When the affected nerve is so situated that its course can be traced, it is not difficult to discern this cause. If a tumor be discovered in the course of the affected nerve and pressure not produces a paroxysm, it is highly probable that the disease is caused by this tumor. The tumor when not connected to the nerve or surrounding parts, is moveable in all directions, but when enclosed in the nerve it admits of lateral motion only. The indication for the removal of the cause can only be accomplished by the removal of the tu-

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-mor. If the tumor be not connected with the nerve its simple removal will be sufficient, but if involved in the nerve, we have the choice either to dissect it out, or cutting through the nerve above and below the tumor to take out a portion with it. From the two cases, publishished by Sir E. Home in the second volume of the Transactions of a Society for the improvement of Medical and Chirugical knowledge, the latter operation would seem preferable, the other having terminated fatally.

Another cause of the disease, is said to consist in "an inflamed state of the periosteum of the bones to which the nerves involved in the disease are distributed". This cause was first noticed by Dr. J. K. Mitchell in a case published in the first number of the N. American medical and surgical Journal, and subsequently by Dr. Trenor, who, in the succeeding number, entered more fully into the subject and considered it as the sole cause of the disease. He considers that the disease is situated at the point "from which the nervous twitches commence". If this indication does not exist, the diseased spot may be found

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"by pressing with some degree of force upon the periosteum", in different points until it is indicated by the pain produced. The methods of cure employed by the above mentioned gentlemen are somewhat different. Dr. St. after cutting down upon the bone and finding this state of the periosteum, tied up the artery leading to the part. Dr. T. recommends the inflamed spot to be laid freely open, thus relieving the tension and congestion of the diseased membrane, and if necessary, it is to be repeated.

From some of the phenomena displayed on dissection it appears that a congestive state or loss of balance in the circulation of the neurilema, is another and perhaps by far the most frequent cause of the disease. It is in this case, that the derangement of the general system exerts a powerful influence in aggravating the disease, its effects manifesting themselves more readily in the weakened parts. As the withdrawing of the aggravating cause will render the disease more tractable, and where the derangement mainly contributes to support the local congestion, will allow a more ready subsidence of the disease; it is proper

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to turn our attention to the state of the general system. So much was Mr Abernethy convinced of the importance of this measure, as to consider the disease to have its origin in a disturbance of the digestive organs and to depend on the restoration of their functions for a cure. The measures to be used will readily suggest themselves according to the state requiring correction. In cases accompanied by Pyrosis, Gastrodynia and other signs of digestive derangement, much benefit may be derived from Emetics, Purgatives, &c. Emetics by removing acrid and offensive matters and by raising the action of the stomach, often prove powerful agents in restoring the tone of the system and in establishing the proper balance between the several parts. They have accordingly been strongly recommended by Professor Physick, by whom they have been found particularly beneficial in the disease under consideration. Alone they may have cured the disease, but in most cases, it will be necessary to follow up their action by other remedies and purgatives are next employed. The plan of treatment adopted by Mr Abernethy consists in the exhibition of five grains of

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the blue pill in the evening, to be followed on the succeeding morning by a small dose of Rhubarb. These act gently on the bowels, producing a mild apperient effect. It is perhaps owing to the combination of a mild laxative property with its tonic powers, that the Carbonate of Iron has proved so beneficial in the cure of Neuralgia. The success of this remedy has been generally ascribed to its action as a tonic, and in doses of one scruple or less, its energies are displayed in the mere increased tone imparted to the system. But when administered in larger doses, as one or two drachms repeated twice or thrice a day, greater activity has been observed in the peristaltic motions of the alimentary canal and the alvine discharges have been rendered more regular and more abundant. When increased to the quantity of half an ounce, it has the following effects, as stated in the N. American medical and surgical Journal, number six page 175. "the bowels were moved during the following day, and the pulse much weakened, an effect of invariable occurrence during the use of the Carbonate".

Nearly the same remarks apply to the White mustard seed. This article though greatly inferior to the Carbonate of Iron, as a tonic, may nevertheless be often advantageously used especially when the action of stimuli is required.

The combination of an Emetic with a purgative, as used by Dr. J. Wilson will sometimes be more effectual than either remedy alone.

Considering the disease as arising from a vitiated condition of the digestive organs, Dr. T. Taylor has recommended the use of Prussic acid and Carbonate of Soda, affirming the cure to be more rapid than when produced by the Carbonate of Iron. The action of this remedy is not confined to the digestive system, the acid which it contains has powerful effects in lessening the irritability of the nervous system, an operation which will often be found useful.

Having corrected the deranged state of the system or no derangement being found, we must turn our attention to the more immediate cause of the disease, which we have stated to consist frequently in a congestion in a portion of the neurilema. The means of subduing this state,

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to be first noticed, are General and Local bleeding. The former may occasionally be required, but in a majority of cases, there is so much debility as to render it inadmissable. Local bleeding is of more general application. The greatest difficulty in its use, is to determine the spot from which blood may be drawn with most advantage, for unless it be drawn from the neighbourhood of the affected part it will be productive of but little benefit. Owing to the confined situation of the nerve in the face, we cannot expect much benefit from its use, unless the congestion is near the extremities of the nerve. When thus situated, scarification of the gums, as recommended by Dr. Parry, will prove beneficial. When the disease affects the extremities, we may expect benefit from the detraction of blood in the course of the nerve, varying however its application, according as more or less benefit is derived by the loss of blood from any particular spot.

From its tendency to reduce the pulse and equalise the circulation, Digitalis has been used in this disease, but with little success. It sometimes alleviates the torments of the disease, and may be of some use as an adjunct to the other remedies.

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The debility which so often accompanies Neuralgia, by favouring the opinion that this state of the system is essentially concerned in the production of the disease has led to the use of Tonics. The effect of this state will certainly be, to aggravate the complaint by increasing local congestion. By the use of Tonics, we correct this state, promote an equability in the circulation and render the nervous fibre less susceptible of irritation. Such views of the action of Tonics will lead us to consider them as applicable to certain states of this disease and their utility is confirmed by experience. The Carbonate of iron, first recommended by Mr. Hutchinson, has obtained most celebrity in the cure of Neuralgia. According to this gentleman, the effects of the remedy are displayed in "increasing the general excitement, promoting the digestive powers, and healthy secretions, giving a more florid hue to the blood and augmenting in a great degree the energy of the muscular fibres." A remedy of such powers we would suppose to be beneficial even in small doses, but its frequent failure when thus given, convinces us that it is not to its tonic powers alone that we are indebted for the

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benefit derived from an increased dose. The additional property acquired by this increase has been already mentioned and to the combined properties more is certainly due than to either alone. The Carbonate of Iron has not, in this country, answered the high expectations raised by Mr Hutchinson's publication. Some cases have yeilded to the remedy, but many more have received no benefit. To what cause this may be attributed it is impossible to say. It may be, that not yet being accustomed to the use of the remedy in so large doses, we have not acquired sufficient boldness to push it the extent requisite to test its virtues. The mode of administering the Carbonate, which appears most successful, is to give it doses of a drachm three times a day, and if this affords no relief to increase the dose. The only limits which appear to be set to this increase, is in the bulk of the remedy; half an ounce has been taken without any deleterious effects. Occasionally we may commence with half a drachm at a dose, but this quantity is seldom sufficient to effect a cure. This remedy when beneficial generally affords relief in a few days after its first exhibition or an increase of the dose.

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The Peruvian Bark and its preparations having been found efficacious in a form of disease, said to resemble Neuralgia but assuming a periodical character, came also to be employed in the form under consideration. The success from the use of the Sulphate of Quinine in France exhibits much in its favour. From the accounts there published, it would seem to require but a short period to effect a cure. The doses in which the Sulphate was exhibited considerably exceeded the usual quantity, in some cases as much as eight grains was given three times a day. As it is usual for a medicine to acquire some new property by an increase of the dose, the same result would be expected in this case, and we are not disappointed. The Gallic practioners according to recent accounts, now give it in doses of ten grains as a sedative, a property of some value in this disease. The result of the use of the Quinine in this country, we have no means of ascertaining. It is probable that it has been employed and with but little success, if we may judge from the silence on the subject.

The preparations of Arsenic have also been used successfully. This remedy was first recommended by Mr.

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Hill, in the year 1810. as beneficial in those cases of Neuralgia accompanied by debility. This remedy though apparently applicable these cases only, has nevertheless been efficient in cases exhibiting no such appearances. This remedy has also failed in many instances, why we are unable to say. Nevertheless in some of these cases though not sufficient to effect a cure, it often palliates the disease.

These are the most important of the Tonics which have been employed in Neuralgia. The preparations of Zinc and the Nitrate of Silver have also been employed, but have not acquired much reputation. In addition to these means the well regulated use of proper exercise is not to be neglected. This employed in the bracing air of the country has of itself effected a cure of the disease. Without its use all other remedies may prove unavailing. The use of the cold bath is also an excellent adjuvant, it strengthens the system and tends to restore the energy and equilibrium of the circulation.

Stimulants have occasionally been employed with benefit. The tinctura Guiaci ammoniata was used by Dr.

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Hosack, in one case, in the dose of a drachm every two hours, with the effect of "always relieving the disease". By Dr. Jackson of Boston the Aqua Ammoniæ was given, in one case, with benefit to the extent of from one to three drachms, three times a day; but on repeating the trial in another, it was "not adequate to the cure of the disease". In France, the Oil of Turpentine in the dose of a drachm twice a day, has met with some success in femeropopliteal Neuralgia. This remedy was first recommended by M. Martinet, and several subsequent reports concur in its efficacy. Under this head we may also place Electricity; This is reported to have been useful in some cases, and in others to have caused so much suffering as to entirely prevent its use.

The action of Counterirritants in removing local congestion, render them applicable to the disease under consideration. Though their application will often be followed by benefit, yet we will be disappointed if too much reliance be placed on their efficacy. These articles will be the more effectual the nearer they are placed to the seat of the disease. Of these remedies, Blisters often renewed or constant

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-ly kept open, hold the first place. They are mostly directed to be applied in the course of the affected nerve. Columnius however advises their application, in Femoropopliteal Neuralgia, to the extremities of the nerve, with the view of evacuating the serous effusion from the neurilema; which effusion, he considers as the cause of the disease. This plan has been followed with some success, in the hospital La Charité of Paris. Issues, the actual cautery and the moxa, applied in the course of the nerve, have all been used with variable success, sometimes curing, at others failing or even aggravating the disease. Irritating Liniments of different kinds have also been used, with the effect of alleviating and sometimes of curing the disease.

The last remedy to be mentioned is Mercury urged to a salivation. This has occasionally conquered the disease, but it is one of our last resources and by no means unfailing. When it does not effect a cure, it often aggravates the disease. Sometimes its good effects last only as long as the salivation is kept up, at others they are not manifest until the action of the mercury is subsiding.

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Class second. Those measures calculated to prevent the action of the cause, from affecting the sensorium.

These measures are two, the use of Narcotics and an Operation. The cause of this disease appears to be of such a nature, as to subside spontaneously when the exciting cause to act, or when by their action they are not capable of producing a paroxysm. Narcotics act in these cases by deadening the nervous fibre, thus to prevent the paroxysms and allow the disease to subside, as the paroxysms no longer re-act on the primary cause and keep up the irritation. It to be attributed to this that opium has been found insufficient to effect a cure. When employed to such an extent as to bring the system under its control, it acts as a palliative, but it requires a constant increase in the dose, and its power of impairing nervous sensibility is much inferior to that of other articles in the same class.

The first article of this class, which was employed in the disease is the Cicuta, for the use of which we are indebted to Dr. J. Fothergill. In the amount of twenty grains a day, he found it to produce favourable effects, if conti-

-nued for a sufficient period. The same means have been used by Dr. Jackson of Boston with similar success, but in one case he found it requisite to give three hundred grains in six hours, before it was beneficial. These accounts and others of a like nature exhibit this remedy in a favourable light, and show its efficacy when the system is brought under its control. The effects of this remedy generally manifest themselves, according to Dr. Jackson, in less than two hours. Dr. J's plan was to commence with one grain of the extract, to be increased to five grains on the second or third dose, and five grains to be added to each succeeding dose, until the desired effect was produced. This remedy is worthy of further trial; Cases will however be met, in which it will only prove palliative.

The Atropa Belladonna has also been useful. This was first applied to the cure of the disease by Dr. Bailey, who used it with much success. Later accounts have coincided with his. The tincture and extract are both useful. The latter is to be used in doses of one grain, gradually increased until its effects appear; when smaller doses will keep up the action.

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Stramonium from its analogy to the foregoing article has also been used. Its success is about equal to the Belladonna. Dr. Marcet recommends the employment of the Extract from the seed in doses of from one eighth of a grain to a grain, "which should not be exceeded until its effects have been ascertained." By Dr. Thatcher it is recommended to combine Ipecacuanha with the Stramonium, as it destroys the deleterious effects, without impairing those which are beneficial.

The External use of these articles has also proved beneficial. This mode when it can be used successfully, is to be prefered, as the injurious effects are hereby avoided. They are to be applied, in the form either of an unguent or plaster to the extremities of the affected nerve. With the same view, Sir A Cooper has employed with success a plaster chiefly composed of Lead. The failure of the articles of this class may often be attributed to the impurity of the medecine or to its not being given in doses sufficient to bring the system suddenly under its control. These medicines are often found unfit for use, or so impure as to require to be given in very large doses to produce their specific effects. To nothing but

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their impurity can be attributed the immense doses which occasionally have been found requisite to produce even inconsiderable effects. In a case related by Dr. Thacher the Cicuta was taken in the amount of eighty grains an hour for seven hours and produced "only a slight giddiness for a short time" When such imperfect medicines are used, we are deceived as to the real amount taken, and by the system becoming gradually accustomed to its action we are disappointed in its effects. For it appears that the sooner the system is affected, the greater is the impression on the disease and the smaller the doses subsequently required for its control.

All other measures failing we resort as our last expedient to the division of the nerve. It is evident that this can avail but little unless the division be made between the diseased point and the sensorium. The operation has met with success in the hands of Andre, Haighton and others, but with more it has ended in disappointment and failure. The cause of failure may often be attributed to ignorance of the location of the disease, with which even at the present day we are not better acquainted. The following circum-

-stances may perhaps afford some insight into the myste-
-ry. It is mentioned in a case in which Dr. Haighton operated suc-
-cessfully, that "pressure on the nerve in its course relieves the
pain". This circumstance leads to the supposition that the dis-
-ease was situated near the extremities of the nerve and the action
of the pressure was to cut off its communication with the senso-
-rium. The result of the operation also strengthens this opinion. In
several other cases operated on with success, another circumstance
occurred which gives rise to the same supposition. In these cases it
is mentioned that pressure on some particular spot, if soon enough
applied, would stop a paroxysm of the disease. A circumstance of
this kind coupled with a successful operation makes it probable that
it may be diagnostic, as to the location of the disease. Cases of this
kind are reported by Lizars, Stimpson, Trenor and others.

The modes of operating are two, one the simple division, the
other the excision of a portion of the nerve. The former was used
by Haighton and others, but sometimes proved nugatory by the re-
-union of the nerve. The excision of a portion was then resorted to,
to render the reunion slower or absolutely prevent it. A modi-
-fication of the first was used by Dr. Hosack, in the case of Dr.

fones, it consisted in making two divisions through but one opening, so as to prevent the deformity of a large cicatrix. The operation of excision is to be prefered, as by it we entirely do away any prospect of reunion of the divided nerve. To prevent reunion in the nerve, the divided edges have occasionally been kept separate by the interposition of lint. This proceeding is improper, as we thereby irritate the cut surface of the nerve and may reproduce the disease at this part. The irritation from the operation, is sometimes of itself sufficient to keep up some degree of pain for a few days after the operation, how much more active then would be the contact of a foreign body with an overmuch irritated nerve.

We have now finished the consideration of all the Remedies comprehended under our two Classes, but we must not neglect to mention some others whose action we are unable to explain. These are magnetism and acupunctuation. The notions at one time entertained of the efficacy of the magnet were very exalted, it being considered to have the same power over pain as over the

magnetic needle. These opinions have now died away and it is at present but rarely employed. Whether it ever was efficacious, except by its effects on the imagination, it is impossible to say. We cannot however be considered too sceptical in doubting its powers, when the fate of a similar remedy, the metallic Tractors, is taken into consideration.

The Acupuncture needle now stands high in the estimation of many. Notwithstanding the high encomiums passed upon it, its efficacy in the cure of Neuralgia yet remains doubtful. We have seen it applied in several cases but never with any decided benefit. This however should not deter us from its use, as the application is simple and the pain produced is but slight. In addition to which some cases may be more appropriate for its application than others, a circumstance which at present we are unable appreciate.